Introduction

Southeastern North Carolina is a biologically rich region where human populations and activities are increasing rapidly, putting natural systems and biodiversity at risk. To facilitate conservation planning for this region, we conducted an analysis of terrestrial and wetland habitats[1] that combines procedures for site evaluation in standard use by Natural Heritage Programs with newer approaches that address conservation needs relative to the entire landscape. There were four main objectives for this study:

- Compile existing information on the region and produce GIS data layers for analysis
- Undertake a landscape analysis using GIS to identify core conservation areas and key links between them
- Assess conservation priorities based on NHP procedures and results of landscape analysis
- Identify data gaps and future survey needs

We approached this project primarily from a Natural Heritage Program (NHP) perspective by relying predominately on data obtained from field surveys of natural areas and species of particular conservation concern. However, we used this project as an opportunity to expand our horizons. We did this partly by using our own data to make inferences about the integrity of the landscape outside the boundaries of traditionally defined element occurrences and significant natural areas. We also entered into a partnership with two other agencies, the North Carolina Museum of Natural Sciences, and the North Carolina GAP Analysis Project (NCGAP). Both of these agencies are also charged with surveying the biodiversity of the state but use differing, though complementary, approaches to that taken by the Natural Heritage Program.

Study Area

The study area (Fig. 1) is located in southeastern North Carolina and includes six counties in their entirety: Robeson, Bladen, Pender, New Hanover, Brunswick, and Columbus. Parts of six other counties are also included: Scotland, Hoke, Cumberland, Sampson, Duplin, and Onslow.

Due to its biological significance -- discussed in more detail in Biogeographic Setting of the Study Area -- the southeastern corner of North Carolina is one of the most inventoried regions in the state. Primary sources of information used in this study include:

- Eleven natural area inventories conducted in this region by the Natural Heritage Program and other state agencies (Ash,1990, 1992; LeBlond, 1995a, 1995b; LeBlond, et al., 1997; LeGrand and Sorrie,1997; Leonard and Davis, 1981; Lopanzanski, et al., 1988; Nifong, 1981,1982; Schafale, 1994). Two-hundred Significant Natural Heritage Areas (SNHAs)

[1] While the study area contains a number of highly significant aquatic habitats, such as Lake Waccamaw and the Black River, an analysis of the conservation needs of these habitats was not conducted due to time constraints.